WHAT IS CLAIMED IS:

1.   An image search system for determining a similarity of an image whose feature are represented by either one of image features amounts, a color distribution features or a frequency distribution features, to search for a similar image, comprising:

means for converting, with respect to an image set to be a target whose kind of image features amount is to be changed among respective images to be searched and an inquiry image, a kind of image features amount of the image in question to make kinds of image features amounts of each said image to be searched and said inquiry image coincident with each other; and

means for comparing the image features amount of said inquiry image with the image features amount of each said image to be searched based on said converted image features amount and determining a similarity of each image to search for a similar image.

2.   The image search system as set forth in claim 1, further comprising

means for referring to data of the image features amount of each said image to be searched, and

means for receiving input of data of the image features amount of said inquiry image.

3.   The image search system as set forth in claim 1,
further comprising

frequency distribution features conversion means
for converting a frequency distribution features into a
color distribution features indicative of feature
similar to image features represented by the frequency
distribution features in question, and

color distribution similarity calculation means
for comparing the color distribution features of said
inquiry image with the color distribution features of
each said image to be searched and determining a
similarity of each image to search for a similar image,
wherein

said frequency distribution features conversion
means renders all the kinds of image features amounts of
each image to be searched and the inquiry image into the
color distribution features.

4.   The image search system as set forth in claim 1,
further comprising

means for referring to data of the image features
amount of each said image to be searched,

means for receiving input of data of the image
features amount of said inquiry image,

frequency distribution features conversion means
for converting a frequency distribution features into a
color distribution features indicative of feature

10   similar to image features represented by the frequency

distribution features in question, and

     color distribution similarity calculation means

for comparing the color distribution features of said

inquiry image with the color distribution features of

15   each said image to be searched and determining a

similarity of each image to search for a similar image,

wherein

     said frequency distribution features conversion

means renders all the kinds of image features amounts of

20   each image to be searched and the inquiry image into the

color distribution features.

5.   The image search system as set forth in claim 1,

further comprising

     frequency distribution features conversion means

for converting a frequency distribution features into a

5   color distribution features indicative of feature

similar to image features represented by the frequency

distribution features in question, and

     color distribution similarity calculation means

for comparing the color distribution features of said

10   inquiry image with the color distribution features of

each said image to be searched and determining a

similarity of each image to search for a similar image,

wherein

     said frequency distribution features conversion

15 means renders all the kinds of image features amounts of

each image to be searched and the inquiry image into the

color distribution features, and

said frequency distribution features conversion

means including

20 inverse-frequency transformation means for

decoding an applied frequency distribution features to

generate a decoded image, and

color distribution features extraction means for

extracting each pixel value of said decoded image as a

25 color constituent features to extract a color

distribution features indicative of feature similar to

image features represented by said applied frequency

distribution features.

6. The image search system as set forth in claim 1,

further comprising

means for referring to data of the image features

amount of each said image to be searched,

5 means for receiving input of data of the image

features amount of said inquiry image,

frequency distribution features conversion means

for converting a frequency distribution features into a

color distribution features indicative of feature

10 similar to image features represented by the frequency

distribution features in question, and

color distribution similarity calculation means

for comparing the color distribution features of said

inquiry image with the color distribution features of

15 each said image to be searched and determining a

similarity of each image to search for a similar image,

wherein

 said frequency distribution features conversion

means renders all the kinds of image features amounts of

20 each image to be searched and the inquiry image into the

color distribution features, and

 said frequency distribution features conversion

means including

 inverse-frequency transformation means for

25 decoding an applied frequency distribution features to

generate a decoded image, and

 color distribution features extraction means for

extracting each pixel value of said decoded image as a

color constituent features to extract a color

30 distribution features indicative of feature similar to

image features represented by said applied frequency

distribution features.

7. The image search system as set forth in claim 1,

further comprising

 frequency distribution features conversion means

for converting a frequency distribution features into a

5 color distribution features indicative of feature

similar to image features represented by the frequency

distribution features in question, and

color distribution similarity calculation means for comparing the color distribution features of said inquiry image with the color distribution features of each said image to be searched and determining a similarity of each image to search for a similar image, wherein

said frequency distribution features conversion means renders all the kinds of image features amounts of each image to be searched and the inquiry image into the color distribution features, and said frequency distribution features conversion means including

inverse-frequency transformation means for decoding an applied frequency distribution features to generate a decoded image,

image division means for dividing said decoded image into a predetermined plurality of blocks, and

color distribution features extraction means for calculating each color constituent features of each said block to extract a color distribution features indicative of feature similar to image features represented by said applied frequency distribution features.

8.   The image search system as set forth in claim 1, further comprising

means for referring to data of the image features
amount of each said image to be searched,

5   means for receiving input of data of the image
features amount of said inquiry image,

frequency distribution features conversion means
for converting a frequency distribution features into a
color distribution features indicative of feature

10   similar to image features represented by the frequency
distribution features in question, and

color distribution similarity calculation means
for comparing the color distribution features of said
inquiry image with the color distribution features of

15   each said image to be searched and determining a
similarity of each image to search for a similar image,
wherein

said frequency distribution features conversion
means renders all the kinds of image features amounts of

20   each image to be searched and the inquiry image into the
color distribution features, and

said frequency distribution features conversion
means including

inverse-frequency transformation means for

25   decoding an applied frequency distribution features to
generate a decoded image,

image division means for dividing said decoded
image into a predetermined plurality of blocks, and

color distribution features extraction means for

30   calculating each color constituent features of each said

block to extract a color distribution features

indicative of feature similar to image features

represented by said applied frequency distribution

features.

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9.   The image search system as set forth in claim 1,

further comprising

frequency distribution features conversion means

for converting a frequency distribution features into a

5   color distribution features indicative of feature

similar to image features represented by the frequency

distribution features in question, and

color distribution similarity calculation means

for comparing the color distribution features of said

10   inquiry image with the color distribution features of

each said image to be searched and determining a

similarity of each image to search for a similar image,

wherein

said frequency distribution features conversion

15   means renders all the kinds of image features amounts of

each image to be searched and the inquiry image into the

color distribution features, and

said frequency distribution features conversion

means including

20   inverse-frequency transformation means for

decoding an applied frequency distribution features to

generate a decoded image,

image division means for dividing said decoded
image into a predetermined plurality of blocks, and

25 color distribution features extraction means for
calculating each color constituent features of each said
block to extract a color distribution features
indicative of feature similar to image features
represented by said applied frequency distribution
30 features, and

said color distribution features extraction means

determines a representative color of each said
block obtained by the division by said image division
means to extract a set of said representative colors as
35 a color distribution features.

10. The image search system as set forth in claim 9,
wherein

said color distribution features extraction means
calculates

5 a color mean of a pixel in each said block
obtained by the division by said image division means to
determine a color of said calculated color mean as said
representative color.

11. The image search system as set forth in claim 1,
further comprising

color distribution features conversion means for

converting a color distribution features into a

5 frequency distribution features indicative of feature

similar to image features represented by the color

distribution features in question, and

frequency distribution similarity calculation

means for comparing the frequency distribution features

10 of said inquiry image with the frequency distribution

features of each said image to be searched and

determining a similarity of each image to search for a

similar image, wherein

said color distribution features conversion means

15 renders all the kinds of image features amounts of each

image to be searched and the inquiry image into the

frequency distribution features.

12. The image search system as set forth in claim 1,

further comprising

means for referring to data of the image features

amount of each said image to be searched,

5 means for receiving input of data of the image

features amount of said inquiry image,

color distribution features conversion means for

converting a color distribution features into a

frequency distribution features indicative of feature

10 similar to image features represented by the color

distribution features in question, and

frequency distribution similarity calculation

means for comparing the frequency distribution features
of said inquiry image with the frequency distribution
15   features of each said image to be searched and
determining a similarity of each image to search for a
similar image, wherein

     said color distribution features conversion means
renders all the kinds of image features amounts of each
20   image to be searched and the inquiry image into the
frequency distribution features.

13.   The image search system as set forth in claim 11,
wherein

     said color distribution features conversion means
comprising

5   representative color determination means for
determining a representative color of each bock in an
applied color distribution features,

     image generation means for generating an image
which uses the representative color of each said block
10   as a pixel,

     image size change means for changing the size of
the image generated by said image generation means to a
predetermined size, and

     frequency distribution features extraction means
15   for frequency-converting the image changed by said image
size change means to extract a frequency distribution
features indicative of feature similar to the image

features represented by said applied color distribution
features.

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14.   The image search system as set forth in claim 1,
wherein

         each said image to be searched is set to be a
target whose kind of said image features amount is to be

5   converted, and

         the kind of image features amount of each said
image to be searched is converted to be coincident with
the kind of image features amount of said inquiry image.

15.   The image search system as set forth in claim 1,
wherein

         said inquiry image is set to be a target whose
kind of said image features amount is to be converted,

5   and

         the kind of image features amount of said inquiry
image is converted to be coincident with the kind of
image features amount of each said image to be searched.

16.   The image search system as set forth in claim 1,
wherein

         both the images, said inquiry image and said
image to be searched, are set to be a target whose kind

5   of said image features amount is to be converted, and

              the kinds of image features of the respective

images, said inquiry image and said each image to be searched, are converted.

17.   The image search system as set forth in claim 16, wherein a circuit for converting a kind of image features amount of said inquiry image and a circuit for converting a kind of image features amount of each said image to be searched are provided independently.

18.   The image search system as set forth in claim 1, wherein

said color distribution features is set to be an image features amount obtained by dividing an image as an object representing feature into a predetermined plurality of blocks and determining a representative color of each said block to generate data of said representative color corresponding to each said block.

19.   The image search system as set forth in claim 1, wherein

said frequency distribution features is set to be an image features amount generated by converting an image as an object representing feature into a reduced image of a fixed size and subjecting said reduced image to frequency transformation.

20.   The image search system as set forth in claim 1,

wherein

said frequency distribution features is set to be
an image features amount generated by converting an
image as an object representing feature into a reduced
image of a fixed size and subjecting said reduced image
to frequency transformation and quantization.

21. An image search method of determining a
similarity of an image whose feature are represented by
either one of image features amounts, a color
distribution features or a frequency distribution
features, to search for a similar image, comprising the
steps of:

with respect to an image set to be a target whose
kind of image features amount is to be converted among
respective images to be searched and an inquiry image,
converting the kind of image features amount of the
image in question to make kinds of image features
amounts of each said image to be searched and said
inquiry image coincident with each other; and

comparing the image features amount of said
inquiry image with the image features amount of each
said image to be searched based on said converted image
features amount and determining a similarity of each
image to search for a similar image.

22. The image search method as set forth in claim 21,

further comprising the steps of

referring to data of the image features amount of each said image to be searched, and

5   receiving input of data of the image features amount of said inquiry image.

23.   The image search method as set forth in claim 21, further comprising

a frequency distribution features conversion step of converting a frequency distribution features into a

5   color distribution features indicative of feature similar to image features represented by the frequency distribution features in question, and

a color distribution similarity calculation step of comparing the color distribution features of said

10   inquiry image with the color distribution features of each said image to be searched and determining a similarity of each image to search for a similar image, wherein

said frequency distribution features conversion

15   step renders all the kinds of image features amounts of each image to be searched and the inquiry image into the color distribution features.

24.   The image search method as set forth in claim 21, further comprising

a step of referring to data of the image features

amount of each said image to be searched,

a step of receiving input of data of the image features amount of said inquiry image,

a frequency distribution features conversion step of converting a frequency distribution features into a color distribution features indicative of feature similar to image features represented by the frequency distribution features in question, and

a color distribution similarity calculation step of comparing the color distribution features of said inquiry image with the color distribution features of each said image to be searched and determining a similarity of each image to search for a similar image, wherein

said frequency distribution features conversion step renders all the kinds of image features amounts of each image to be searched and the inquiry image into the color distribution features.

25. The image search method as set forth in claim 21, further comprising

a frequency distribution features conversion step of converting a frequency distribution features into a color distribution features indicative of feature similar to image features represented by the frequency distribution features in question, and

a color distribution similarity calculation step

of comparing the color distribution features of said

10 inquiry image with the color distribution features of

each said image to be searched and determining a

similarity of each image to search for a similar image,

wherein

said frequency distribution features conversion

15 step renders all the kinds of image features amounts of

each image to be searched and the inquiry image into the

color distribution features, and

said frequency distribution features conversion

step including

20 an inverse-frequency transformation step of

decoding an applied frequency distribution features to

generate a decoded image, and

a color distribution features extraction step of

extracting each pixel value of said decoded image as a

25 color constituent features to extract a color

distribution features indicative of feature similar to

image features represented by said applied frequency

distribution features.

26. The image search method as set forth in claim 21,

further comprising

a step of referring to data of the image features

amount of each said image to be searched,

5 a step of receiving input of data of the image

features amount of said inquiry image,

a frequency distribution features conversion step
of converting a frequency distribution features into a
color distribution features indicative of feature
similar to image features represented by the frequency
distribution features in question, and

a color distribution similarity calculation step
of comparing the color distribution features of said
inquiry image with the color distribution features of
each said image to be searched and determining a
similarity of each image to search for a similar image,
wherein

said frequency distribution features conversion
step renders all the kinds of image features amounts of
each image to be searched and the inquiry image into the
color distribution features, and

said frequency distribution features conversion
step including

an inverse-frequency transformation step of
decoding an applied frequency distribution features to
generate a decoded image, and

a color distribution features extraction step of
extracting each pixel value of said decoded image as a
color constituent features to extract a color
distribution features indicative of feature similar to
image features represented by said applied frequency
distribution features.

27.   The image search method as set forth in claim 21,
further comprising

        a frequency distribution features conversion step
of converting a frequency distribution features into a
color distribution features indicative of feature
similar to image features represented by the frequency
distribution features in question, and

        a color distribution similarity calculation step
of comparing the color distribution features of said
inquiry image with the color distribution features of
each said image to be searched and determining a
similarity of each image to search for a similar image,
wherein

        said frequency distribution features conversion
step renders all the kinds of image features amounts of
each image to be searched and the inquiry image into the
color distribution features, and

        said frequency distribution features conversion
step including

        an inverse-frequency transformation step of
decoding an applied frequency distribution features to
generate a decoded image,

        an image division step of dividing said decoded
image into a predetermined plurality of blocks, and

        a color distribution features extraction step of
calculating each color constituent features of each said
block to extract a color distribution features

indicative of feature similar to image features

represented by said applied frequency distribution

30   features.

28.   The image search method as set forth in claim 21,

further comprising

        a step of referring to data of the image features

amount of each said image to be searched,

5   a step of receiving input of data of the image

features amount of said inquiry image,

        a frequency distribution features conversion step

of converting a frequency distribution features into a

color distribution features indicative of feature

10   similar to image features represented by the frequency

distribution features in question, and

        a color distribution similarity calculation step

of comparing the color distribution features of said

inquiry image with the color distribution features of

15   each said image to be searched and determining a

similarity of each image to search for a similar image,

wherein

        said frequency distribution features conversion

step renders all the kinds of image features amounts of

20   each image to be searched and the inquiry image into the

color distribution features, and

        said frequency distribution features conversion

step including

an inverse-frequency transformation step of

25 decoding an applied frequency distribution features to

generate a decoded image,

an image division step of dividing said decoded

image into a predetermined plurality of blocks, and

a color distribution features extraction step of

30 calculating each color constituent features of each said

block to extract a color distribution features

indicative of feature similar to image features

represented by said applied frequency distribution

features.

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29. The image search method as set forth in claim 28,

wherein

said color distribution features extraction step

determines

5 a representative color of each said block

obtained by the division by said image division step to

extract a set of said representative colors as a color

distribution features.

30. The image search method as set forth in claim 29,

wherein

said color distribution features extraction step

calculates a color mean of a pixel in each said

5 block obtained by the division by said image division

step to determine a color of said calculated color mean

as said representative color.

31.   The image search method as set forth in claim 21,
further comprising

        a color distribution features conversion step of
converting a color distribution features into a
5   frequency distribution features indicative of feature
similar to image features represented by the color
distribution features in question, and

        a frequency distribution similarity calculation
step of comparing the frequency distribution features of
10   said inquiry image with the frequency distribution
features of each said image to be searched and
determining a similarity of each image to search for a
similar image, wherein

        said color distribution features conversion step
15   renders all the kinds of image features amounts of each
image to be searched and the inquiry image into the
frequency distribution features.

32.   The image search method as set forth in claim 21,
further comprising

        a step of referring to data of the image features
amount of each said image to be searched,

5   a step of receiving input of data of the image
features amount of said inquiry image,

        a color distribution features conversion step of

converting a color distribution features into a
frequency distribution features indicative of feature
10 similar to image features represented by the color
distribution features in question, and

a frequency distribution similarity calculation
step of comparing the frequency distribution features of
said inquiry image with the frequency distribution
15 features of each said image to be searched and
determining a similarity of each image to search for a
similar image, wherein

said color distribution features conversion step
renders all the kinds of image features amounts of each
20 image to be searched and the inquiry image into the
frequency distribution features.

33.   The image search method as set forth in claim 31,
wherein

said color distribution features conversion step
comprising
5   a representative color determination step of
determining a representative color of each bock in an
applied color distribution features,

an image generation step of generating an image
which uses the representative color of each said block
10 as a pixel,

an image size change step of changing the size of
the image generated by said image generation step to a

predetermined size, and

a frequency distribution features extraction step

15 of frequency-converting the image changed by said image

size change step to extract a frequency distribution

features indicative of feature similar to the image

features represented by said applied color distribution

features.

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34.   `An image search program for determining a

similarity of an image whose feature are represented by

either one of image features amounts, a color

distribution features or a frequency distribution

5 features, to search for a similar image by controlling a

computer, comprising the functions of:

with respect to an image set to be a target whose

kind of image features amount is to be converted among

respective images to be searched and an inquiry image,

10 converting the kind of image features amount of the

image in question to make kinds of image features

amounts of each said image to be searched and said

inquiry image coincident with each other; and

comparing the image features amount of said

15 inquiry image with the image features amount of each

said image to be searched based on said converted image

features amount and determining a similarity of each

image to search for a similar image.

35.   The image search program as set forth in claim 34, further comprising the functions of

        referring to data of the image features amount of each said image to be searched, and

5   receiving input of data of the image features amount of said inquiry image.

36.   The image search program as set forth in claim 34, further comprising

        a frequency distribution features conversion function of converting a frequency distribution features

5   into a color distribution features indicative of feature similar to image features represented by the frequency distribution features in question, and

        a color distribution similarity calculation function of comparing the color distribution features of

10   said inquiry image with the color distribution features of each said image to be searched and determining a similarity of each image to search for a similar image, wherein

        said frequency distribution features conversion

15   function renders all the kinds of image features amounts of each image to be searched and the inquiry image into the color distribution features.

37.   The image search program as set forth in claim 36, wherein

said frequency distribution features conversion function includesing

5   an inverse-frequency transformation function of decoding an applied frequency distribution features to generate a decoded image, and

a color distribution features extraction function of extracting each pixel value of said decoded image as

10   a color constituent features to extract a color distribution features indicative of feature similar to image features represented by said applied frequency distribution features.

38.   The image search program as set forth in claim 36, wherein

said frequency distribution features conversion function including

5   an inverse-frequency transformation function of decoding an applied frequency distribution features to generate a decoded image,

an image division function of dividing said decoded image into a predetermined plurality of blocks,

10   and

a color distribution features extraction function of calculating each color constituent features of each said block to extract a color distribution features indicative of feature similar to image features

15   represented by said applied frequency distribution

features.

39.   The image search program as set forth in claim 38,
wherein

said color distribution features extraction
function determines

a representative color of each said block
obtained by the division by said image division function
to extract a set of said representative colors as a
color distribution features.

40.   The image search program as set forth in claim 39,
wherein

said color distribution features extraction
function

calculates a color mean of a pixel in each said
block obtained by the division by said image division
function to determine a color of said calculated color
mean as said representative color.

41.   The image search program as set forth in claim 34,
further comprising

a color distribution features conversion function
of converting a color distribution features into a
frequency distribution features indicative of feature
similar to image features represented by the color
distribution features in question, and

a frequency distribution similarity calculation
function of comparing the frequency distribution

10 features of said inquiry image with the frequency
distribution features of each said image to be searched
and determining a similarity of each image to search for
a similar image, wherein
said color distribution features conversion

15 function renders all the kinds of image features amounts
of each image to be searched and the inquiry image into
the frequency distribution features.

42. The image search program as set forth in claim 34,
further comprising
a function of referring to data of the image
features amount of each said image to be searched,

5 a function of receiving input of data of the
image features amount of said inquiry image,
a color distribution features conversion function
of converting a color distribution features into a
frequency distribution features indicative of feature

10 similar to image features represented by the color
distribution features in question, and
a frequency distribution similarity calculation
function of comparing the frequency distribution
features of said inquiry image with the frequency

15 distribution features of each said image to be searched
and determining a similarity of each image to search for

a similar image, wherein

said color distribution features conversion
function renders all the kinds of image features amounts
20   of each image to be searched and the inquiry image into
the frequency distribution features.

43.   The image search program as set forth in claim 41,
wherein

said color distribution features conversion
function comprising
5   a representative color determination function of
determining a representative color of each bock in an
applied color distribution features,

an image generation function of generating an
image which uses the representative color of each said
10   block as a pixel,

an image size change function of changing the
size of the image generated by said image generation
function to a predetermined size, and

a frequency distribution features extraction
15   function of frequency-converting the image changed by
said image size change function to extract a frequency
distribution features indicative of feature similar to
the image features represented by said applied color
distribution features.